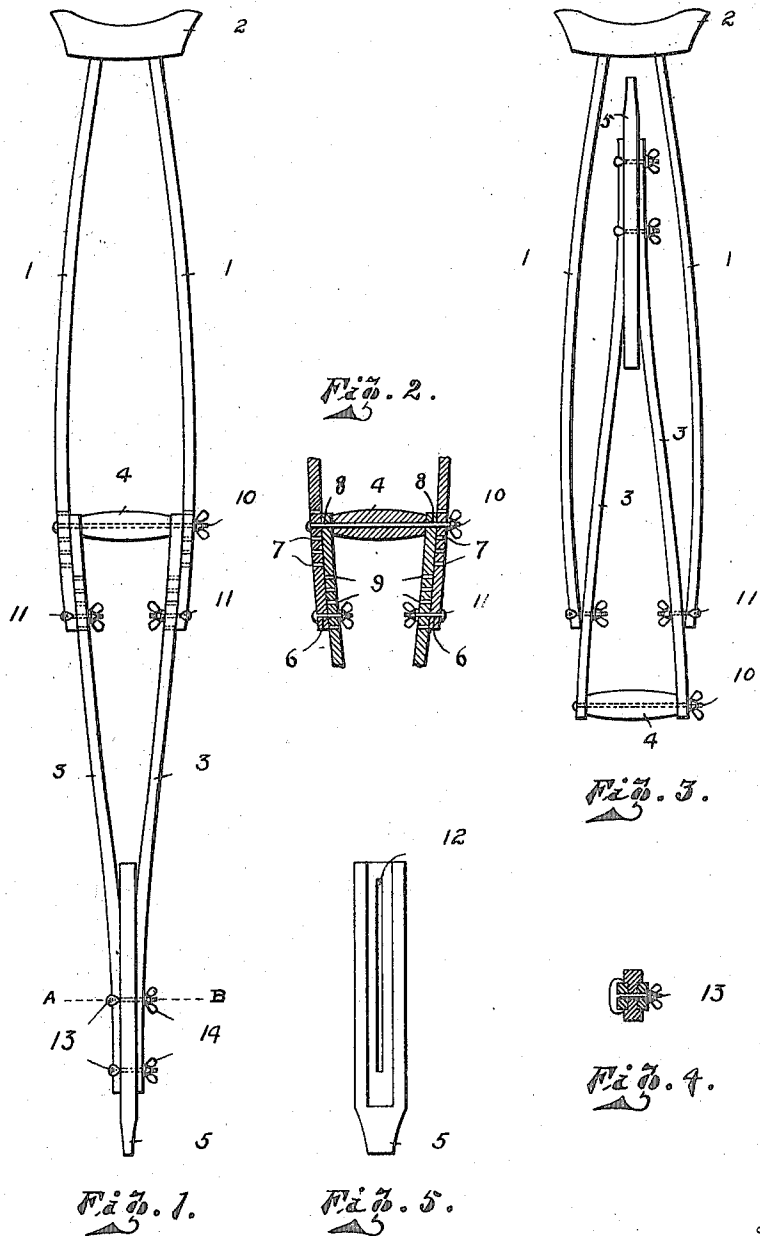


J. P. TONOLLI.
 ADJUSTABLE CRUTCH.
 APPLICATION FILED NOV. 13, 1917.

1,270,463.

Patented June 25, 1918.



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ADJUSTABLE CRUTCH.

1,270,463.

Specification of Letters Patent. Patented June 25, 1918.

Application filed November 13, 1917. Serial No. 201,746.

To all whom it may concern:

Be it known that I, JOHN P. TONOLLI, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Adjustable Crutches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in crutches and especially to one provided with means whereby the length of the crutch may be adjusted to suit individual circumstances.

The principal object is to provide simple and strong coöperative adjustable parts which may be made to function efficiently without adding cumbersomeness to the crutch.

Another object is to provide an adjustable crutch of the character described which may be readily folded, one portion substantially within the other, for convenience in storing or shipping.

Other objects and advantages will appear in the further description of the invention.

In the accompanying drawings forming part of this application and in which like reference characters indicate like parts:

Figure 1 is a side elevation of my improved crutch,

Fig. 2 is a vertical central sectional view through the uppermost adjustable part of the crutch,

Fig. 3 is a plan view of the crutch as it appears folded,

Fig. 4 is a transverse sectional view on the line A—B, Fig. 1, and,

Fig. 5 is a side elevation of the lower removable end of the crutch.

The crutch is composed of practically three adjustable sections, the upper body portion comprising the side members 1—1 and arm pit cross piece 2, the lower body portion comprising the side pieces 3—3 and the handle 4, and the ground engaging end piece 5.

The lower ends of the side pieces 1 each has formed therein a single hole 6 and spaced upwardly a predetermined distance therefrom is a series of equidistant holes 7. An identical arrangement of holes exists in the upper ends of the side members 3, they each having a hole 8 adjacent the end thereof and a series of equidistant holes 9 spaced below the hole 8. The holes 6 are

designed to register with any one of the holes of the series 9 simultaneously with the registration of the holes 8 with any corresponding hole in the series 7.

The handle 4 is held intermediate of the upper ends of the pieces 3 by the through bolt 10 passing entirely through the coöperating parts of the crutch and the handle at that point, and which bolt, when the body portions of the crutch are to be adjusted, is removed and replaced as desired.

Through the lower ends of the side pieces 1 and that portion of the side pieces 3 engaging same are short bolts 11 having T-shaped heads which overlap the outer walls of the pieces 1, thus providing a smooth and secure termination of the heads of the bolts. These bolts are removed and replaced as desired when an adjustment of the crutch is made.

The two lower ends of the side pieces are spaced apart and vertically adjustably support between them the lower end of the crutch. This end piece 5 is substantially I-shaped in cross section and the ends of the pieces 3 snugly fit within the channels formed upon either side of the end piece. A slot 12 is formed longitudinally the channels and through which suitable short bolts 13, which unite the lower ends of the members 3 with the end piece, extend.

By slacking off these bolts it is evident that the end piece may be freed sufficiently to be raised or lowered for adjusting the length of the crutch from the ground to the handle 4 and secured at any desired point of adjustment by tightening the nuts 14 on the bolts, these nuts being provided with radially projecting wings forming thumb nuts convenient for manipulation by hand as are all the nuts on the other bolts in the crutch.

Thus I have produced a crutch the length of which between the handle and the arm pit cross piece may be readily changed or the height of the handle from the extreme lower end changed and various modifications of the two adjustments resorted to with but little inconvenience.

The crutch is also capable of being compactly folded into approximately one half its length by the bolt 10 being removed and the two halves of the crutch folded together upon the bolts 11 as pivotal connections, this condition being illustrated in Fig. 3.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

- 5 1. A crutch of the character described comprising an upper body portion, a lower body portion pivotally and longitudinally adjustably attached to the upper portion and a lower end portion slidably adjustably attached to the lower body portion.
- 10 2. A crutch of the character described comprising an upper body portion, a lower body portion, means pivotally and longitudinally adjustably uniting said two portions and a ground engaging portion slidably adjustably carried by the lower body portion whereby both last mentioned portions may be folded approximately within the upper body portion.
- 15 3. A crutch of the character described comprising an upper body portion having depending side members, a single hole adjacent the end of each side member, a series of holes spaced upwardly from each single hole, a lower body portion comprising spaced side members, single holes adjacent the upper ends of the last mentioned side members, a series of holes spaced downwardly from each of said single holes, a handle intermediate of the upper ends of the lower body portion, a bolt passing through both body portions of the crutch and through the handle, short bolts passing through the holes in the lower ends of

the depending side members and through the contacting portions of the lower body side members and a slidably adjustable ground engaging end piece intermediate of the lower ends of the lower body portion substantially as and for the purpose described.

40 4. The combination with a crutch of the character described comprising an upper and lower body portion and means for pivotally uniting said portions whereby one may be folded approximately within the other and in the same plane, of a longitudinally slotted adjustable end piece intermediate of the lower ends of the lower body portion whereby the lower portion may be shortened for such folding.

50 5. The combination with a crutch of the character described comprising a pivotally foldable body portion the lowermost section of which has spaced side members, of a longitudinally slotted ground engaging end member substantially I-shaped in cross section and slidably adjustably held intermediate of the spaced ends of the lower body section substantially as and for the purpose described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOHN P. TONOLLI.

Witnesses:

S. C. BRONSON,
S. GEO. STEVENS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."